**US Army Corps
of Engineers**
Waterways Experiment
Station

Research and Development Management Information System, System User Manual

by   Jennifer Rabert, Peggy Wright, Phyllis Krug

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Prepared for   Headquarters, U.S. Army Corps of Engineers

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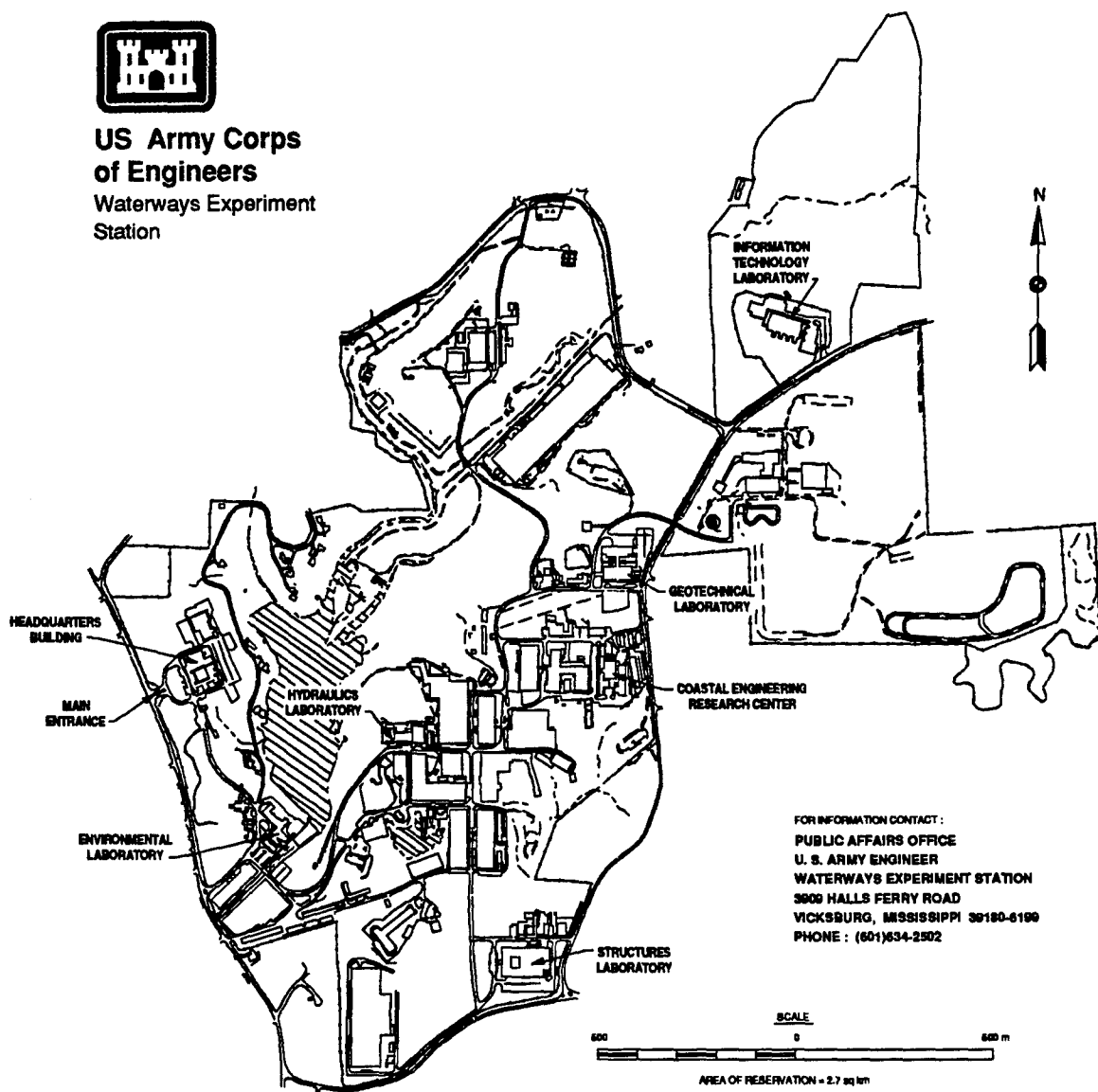
Research and Development Management Information System, System User Manual

by Jennifer Rabert, Peggy Wright, Phyllis Krug

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Final report

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TECHNOLOGY
LABORATORY

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HEADQUARTERS
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WATERWAYS EXPERIMENT STATION
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SCALE

AREA OF RESERVATION = 2.7 sq km

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Preface

The purpose of this document is to provide the system user the information necessary to effectively maintain the Research and Development Management Information System (RDMIS). RDMIS provides a standard tool for reporting Corps research and development work. An RDMIS system user is the site point of contact and is responsible for maintaining site access, security and administration of RDMIS, whether networked or stand-alone.

The information in this paper was compiled at U.S. Army Engineer Waterways Experiment Station (WES), Information Technology Laboratory (ITL), Computer Science Division (CSD), System Modernization Unit (SMU) by Jennifer Rabert, Peggy Wright, and Phyllis Krug.

Sincere appreciation for their efforts in design, development, verification, and editing is extended to the following RDMIS team members: Don Eicher, Randy Fontan, Jerry Spurbeck, Dale Stegall, and Shannon Thornton.

This work was accomplished at WES under the supervision of Ms. Barbara J. Comes, Chief, SMU, Dr. Windell F. Ingram, Chief, CSD, and Dr. N. Radhakrishnan, Director, ITL. At the time of publication of this report, COL Bruce K. Howard was Commander of WES, and Dr. Robert W. Whalin was Director.

1. GENERAL.

1.1 Purpose of the System User Manual.

The objective of the System User Manual for Research and Development Management Information System (RDMIS) is to provide the system user with the information necessary to use, maintain and operate the system effectively, including operation of IBM-compatible personal computer equipment. A system user is the RDMIS site POC and is responsible for maintaining site access and administration of RDMIS, whether networked or not.

1.2 Project References.

Life Cycle Management of Information AR 25-3, (Department of Defense 1989)
Military Standard DOD-STD-7935A, (Department of Defense 1988)
Oswald, Robert B., (15 Nov 1990), Memo on DRD Management Information System
Rabert, Jennifer R., Eicher, Donald E., (1994), "RDMIS Data Definition Document"
Wright, Peggy B., (1991), "Concept of Operations"
Wright, Peggy B., Rabert, Jennifer R., Krug, Phyllis E., (1994), "RDMIS End User Manual"

1.3 Terms and Abbreviations.

ADP Workcode - Automated Data Processing code for the COEMIS
ASCII - American Standard Code for Information Interchange
COEMIS - Corps of Engineers' Management Information System
DOS - Disk Operating System
DRD - Directorate of Research and Development
ESC - Escape Key
FTP - File Transfer Protocol
HQ - Headquarters
Kb (Kilobyte) - term for 1024 bytes
LAN - Local Area Network
Mb (Megabyte) - term used for 1024 x 1024 (or 1,048,576) bytes
PC - Personal Computer
POC - Point of Contact
R&D - Research and Development
RDBMS - Relational Database Management System
RDMIS - Research and Development Management Information System

1.4 Security.

The software and documentation of the RDMIS shall not be copied without authorization.

2. SYSTEM SUMMARY.

2.1 System Overview.

2.1.1 Application Summary.

RDMIS Utilities contain two modules: Database Utilities and Other Utilities.

```
            ┌─────────────────┐
            │  R D M I S      │
            │  U T I L I T Y  │
            └────────┬────────┘
              ┌──────┴──────┐
       ┌──────┴──────┐  ┌──────┴──────┐
       │  DATABASE   │  │   OTHER     │
       │  UTILITIES  │  │  UTILITIES  │
       └─────────────┘  └─────────────┘
```
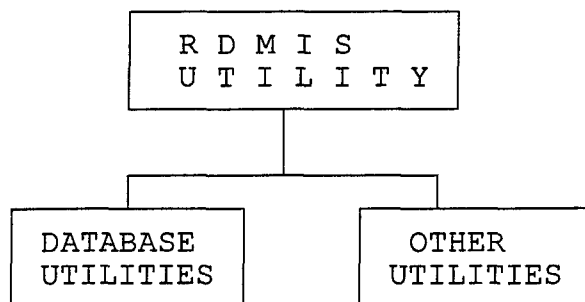
The Database Utilities module has the following sections:

Re-Index, Upload/Export, Download/Import, Roll Ups and Pack Memos.

```
                    ┌─────────────────┐
                    │    DATABASE     │
                    │    UTILITIES    │
                    └────────┬────────┘
   ┌──────────┬──────────────┼──────────────┬──────────────┐
┌──┴─────┐ ┌──┴──────────┐ ┌─┴─────────────┐ ┌┴────────┐ ┌─┴─────────┐
│RE-INDEX│ │UPLOAD/EXPORT│ │DOWNLOAD/IMPORT│ │ROLL UP │ │PACK MEMO │
└────────┘ └─────────────┘ └───────────────┘ └─────────┘ └───────────┘
```
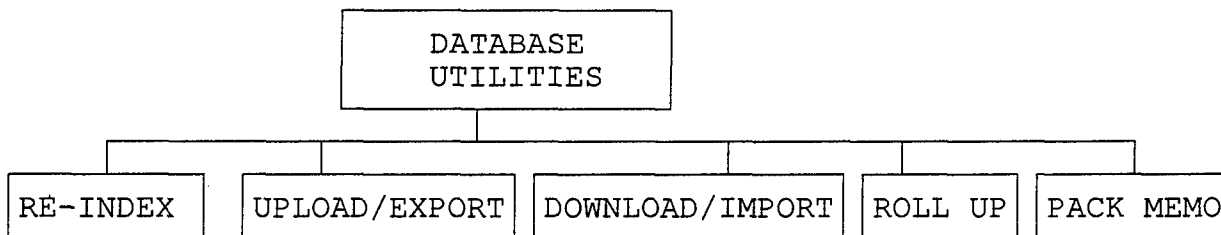
The Other Utilities module has the following sections:

Security, Documentation, RDMIS Update Path and ARCHIVE Data Path.

```
                ┌─────────────────┐
                │     OTHER       │
                │    UTILITIES    │
                └────────┬────────┘
   ┌──────────┬──────────┼──────────────┬──────────────┐
┌──┴─────┐ ┌──┴──────────────┐ ┌────────┴──────┐ ┌──────┴──────┐
│SECURITY│ │ DOCUMENTATION   │ │ UPDATE PATH   │ │ ARCHIVE PATH│
└────────┘ └─────────────────┘ └───────────────┘ └─────────────┘
```
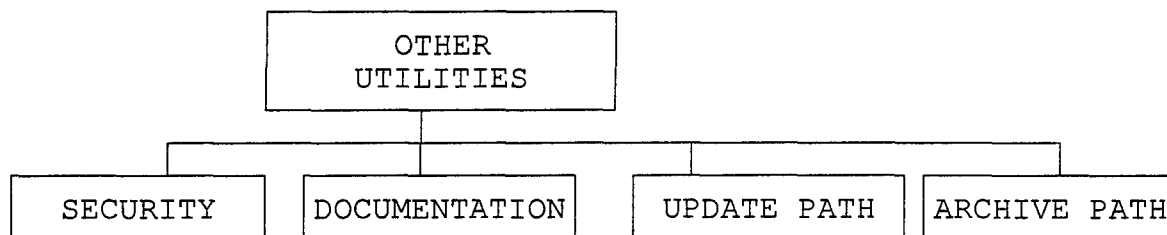
2.1.2 Performance.

Product is PC based; therefore, performance of entry screens and reports are dependent upon processor speed and hard disk access time. If operating in the LAN environment, performance is affected not only by the PC but also the server capabilities and load and network performance.

2.1.3 Controls.

The DRD will control the Research and Technology Areas and overall Program and Work Package levels. The laboratory will manage at Work Unit level and at Program or Work Package level.

2.2 System Environment.

2.2.1 Hardware Required.

The following is minimum hardware required to run RDMIS.

    IBM compatible PC (AT Class)
- 80286 processor.
- 640Kb Conventional Memory. (Most IBM compatible PC's have 1 Mb of Memory, of which 640Kb is conventional)
- 40Mb Hard Disk drive.
- 1 3 1/2" High-Density Floppy Disk drive, or,
  1 5 1/4" High-Density Floppy Disk drive.
- CGA Monitor, Monochrome or Color.
- Keyboard. (Must have at least 10 Function Keys).
- 80 column Printer.

The following is the suggested hardware to run RDMIS.

    IBM Compatible PC (AT Class)
- 80386 processor, or better.
- at least 3 Mb of EMS extended memory.
- 65 Mb Hard Disk drive or better. (17 millisecond response time, or better)
- 1 3 1/2 High Density Floppy Disk Drive, or,
  1 5 1/4 High Density Floppy Disk Drive.
- VGA Color Monitor, with VGA controller card installed.
- 101-Key Keyboard.
- Laser Printer.
- Microsoft(TM) Serial Mouse.

NOTE: (1) Most, if not all, PC Workstations purchased under the DESKTOP series will meet the minimum requirement.
(2) The above requirements will not leave much room on the hard drive to run additional applications.

In addition to the previously listed hardware requirements, the following is also required for running RDMIS within a "LAN" environment.

- Minimum 4Mb Free Disk Space on the hard drive for the RDMIS software.
- LAN card and supporting software.

2.2.2 Software Required.

The minimum additional software required at each site is the FTP software required for file transfers. Banyan FTP or NCSA FTP may be used, and need be loaded on the RDMIS POC's PC only. If using a different FTP contact the RDMIS support team. RDMIS requires DOS 3.21 at each site or better. If the required network version of RDMIS is installed, LAN software must be installed on the computer.

NOTE: Problems may arise while executing RDMIS on DOS version 4.01. Memory problems may arise due to cache schemes, such as SMARTDRIVE. When this happens disable the installation of the cache when working within RDMIS.

2.3 Contingencies and Alternate Modes of Operation.

If the platform is within the LAN environment and the LAN can no longer be accessed contact the LAN administrator.

NOTE: If no data exists, contact RDMIS support to retrieve the entire laboratory data from the CEAP computer.

If stand-alone then do the following:

Obtain another computer.
Install RDMIS software.
Contact the RDMIS support to restore the latest data backup or retrieve the entire laboratory data from the CEAP computer.

NOTE: If the CEAP computer is not accessible to upload data then try later or send to RDMIS support team. Data should not be uploaded directly to DRD.

2.4 Assistance and Problem Reporting.

If the user has an immediate problem then the user should contact RDMIS support.

3.   ACCESS TO THE SYSTEM.

3.1 First-Time Use of the System.

3.1.1 Equipment Familiarization.

To turn on and off the power for the computer, printer and monitor,
press the switch. The switch for computer and monitor are located
either in the front, side or back. The switch for the printer is
located either on the side or the back. The monitor switch might
be a push button (push on/push off) or a switch that indicates the
direction to turn the monitor on (1) or off (0). The computer and
printer offer an off/on (0/1) switch.

The usual monitor is 24 lines by 80 columns (or characters). The
monitor may either be color or monochrome. The cursor on the
monitor (screen) may either be a small horizontal bar or a
character-sized rectangular bar.

The keyboard has function keys either across the top or on the left
side. RDMIS uses some of these function keys. For example, 'F5'
displays the memory usage and 'F7' allows entry of comments. Other
characters might be defined within the screen like 'X' to EXIT.
These characters are displayed at the bottom part of the screen and
are referred as 'Hot Keys'.

3.1.2 Access Control.

Each laboratory or RDMIS site has an RDMIS POC. As the RDMIS POC,
users will contact you to obtain access to RDMIS. Once the user
has access, the user may not change the identifier or password.
The discretion of changing the password is with the RDMIS POC.

3.1.3 Installation and Setup.

To install RDMIS obtain installation software from the CEAP or
contact the RDMIS support team for diskettes. RDMIS offers two
platforms:

        1) Network version, follow steps 1 and 2 below
        2) Stand-alone, follow steps 3 and 4 below

        1. (Network Installation) Install the RDMIS application on the
        server.

                A.   Log on to the network.

                B.   Create a new directory or Change to an existing
                      directory, where the RDMIS data files will reside.
                      Using the DOS change directory command (CD), ensure

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that the RDMIS Data Directory is the current directory. If not sure, see your local Information Manager. (In a multi-user, networked environment, the Data Files will reside on the server.)

C.   If installing from diskette, place the RDMIS INSTALLATION DISK into a floppy disk drive. (The RDMIS Installation Disks are High Density diskettes.)

D.   Type the drive letter of the FLOPPY DISK DRIVE, followed by a COLON (:), followed by INSTALL, then leave a space, and type in the letter of the floppy drive again followed by a colon (:). Examples:

a:install a:
b:install b:

E.   All the RDMIS system files and data files will be copied to the server.

F.   The network has been installed. Be sure that you invoke the personal workstation installation routine, at each of the PC's that will be using RDMIS.

2. (Network Installation) Install the RDMIS application on each Personal Workstation.

A.   Ensure that the following RDMIS parameters are set in the CONFIG.SYS file. The files parameter should be set to 80 and the buffers parameter should be set to 30.

files=80
buffers=30

B.   Login to the network where RDMIS resides.

C.   Move to the network directory where the RDMIS application files reside. Example:

cd \rdmis\system

D.   Enter install command and local directory name, including drive and path, where RDMIS will be installed on the PC. Example:

ws_inst c: rdmis

E.   The RDMIS application will be installed.

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F.   This process must be repeated for each workstation
      that will use RDMIS.

NOTE: The RDMIS application files require a minimum of
      4MBs disk space to run properly.

3. (Stand-alone Installation) Install the RDMIS application on
only one Personal Workstation. Stand-alone installation
requires that the Corps laboratory or Research and Development
site enter all data on the one machine where RDMIS is
installed. A site can NOT maintain multiple copies.

A.   Make the directory where the RDMIS files will
      reside. Example:

                              md   rdmis

B.   Change to that directory. Example:

                              cd   rdmis

C.   Copy the INSTALL Disk, and the SYSTEM Disk to that
      directory. Example:

                              copy   a:*.*

      Do the above command with:

            1.   The INSTALL disk in Drive A:
            2.   The SYSTEM disk in Drive A:

D.   Make a directory for the DATA Files. Example:

                              md   data

E.   Change to that directory. Example:

                              cd   data

F.   Copy all Data Disks to this directory. Example:

                              copy   a:*.*

      Do the above command with each Data Disk.

G.   Create the RDMIS data files.

      Extract data files: **dbf**
      Extract index files: **cdx**
      Extract memo files: **fpt**

H.   Change to the RDMIS Application directory. Example:

cd \rdmis

I.   Create the RDMIS application files.

Extract Foxpro environment files:

foxfiles

Extract application files:

system

J.   To configure RDMIS Application and set up security,
     type rinstall and press enter.

The RINSTALL program will prompt for information
needed to configure RDMIS to the local PC. Follow
directions provided with diskettes. RINSTALL will
load the RDMIS security program. At a minimum,
add one (1) userid.

K.   Installation is complete.

3.2 Initiating a Session.

If your site uses a networked implementation of RDMIS, you must be
logged on to the appropriate LAN to run RDMIS Utilities.

A.   Change directory to where the RDMIS application
     files are installed. (This will be a local drive on
     the PC.) Example:

cd \rdmis

B.   Start RDMIS Utilities. This may be accomplished
     through a locally set up batch file or by typing:

rdmisutl -t

NOTE: Users may not access the RDMIS data while the RDMIS
Utilities Software is active. The system scans the RDMIS data
files to determine if the database is in use. The POC is notified
and not allowed access to the RDMIS Utilities if a User is
accessing the data through RDMIS. If a User tries to access RDMIS
while the POC is running RDMIS Utilities, the User is notified and
not allowed access RDMIS until the POC is through accessing the
database through the RDMIS Utilities.

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After startup, the user may select from the menu bar which offers these three (3) options:

    Database Utilities
    Other Utilities
    Exit

After selecting Database Utilities, the user may select from the sub-menu which offers these five (5) options:

    Re-Index
    Upload/Export
    Download/Import
    Roll Ups
    Pack Memo

After selecting Other Utilities, the user may select from the sub-menu which offers these four (4) options:

    Security
    Documentation
    RDMIS Update Path
    ARCHIVE Data Path

3.3   Stopping and Suspending Work.

The escape key (ESC) on the keyboard will normally exit from the current function.

3.4   Updates.

RDMIS updates are distributed via the CEAP network. A fax is sent to each site POC stating where to pick up the software update and how to update the RDMIS software. Once an update has been successfully applied in the network directory where the RDMIS system resides, each user will automatically receive the updated software the next time they access RDMIS. (This auto-detect and update function was added to the system in release 2.1.)

4.   PROCESSING REFERENCE GUIDE.

4.1 Capabilities.

The RDMIS Utilities main menu offers the site POC the capability to implement security, accomplish database functions, set path for automated software upgrade, and set the path for archive version of RDMIS data.

The Database Utilities option offers the following sub-options:

Re-Index   re-indexes the RDMIS database
Upload/Export   converts the RDMIS database into ASCII format
Download/Import   converts the ASCII into the RDMIS database
Roll Ups   sums the dollar amount from the work unit level
                    to a higher level of work
Pack Memo   reduces the size of the memo database after
                    records have been deleted

The Other Utilities option offers the following sub-options:

Security   maintains RDMIS security at three levels:
                         a. User
                         b. Work Unit
                         c. Program/Work Package
Documentation   RDMIS End User Manual
RDMIS Update Path   sets the path for the automated upgrade of the
                    RDMIS software
ARCHIVE Data Path   sets the path for archive version of RDMIS data

4.2 Conventions.

The RDMIS Utility functions follow the same conventions as the RDMIS end user application. The screen interface functions the same.

4.3 Processing Procedures.

4.3.1 Database Procedures.

DATABASE UTILITIES

The Database Utilities module offers the site POC the capability to
re-index the RDMIS database, roll up the work unit dollars to
higher levels, send and receive data from the DRD database, and
reduce the size of the database after records have been deleted.

To run the Database Utilities, start RDMIS utilities. The first
RDMIS Utilities screen displayed is the castle or main menu.

```
                          U.S. Army Corps of Engineers
DD MMM YY                   Research and Development                RDUTL001
                     Management Information System - Version 2.20

 Database Utilities  Other Utilities  Exit
```
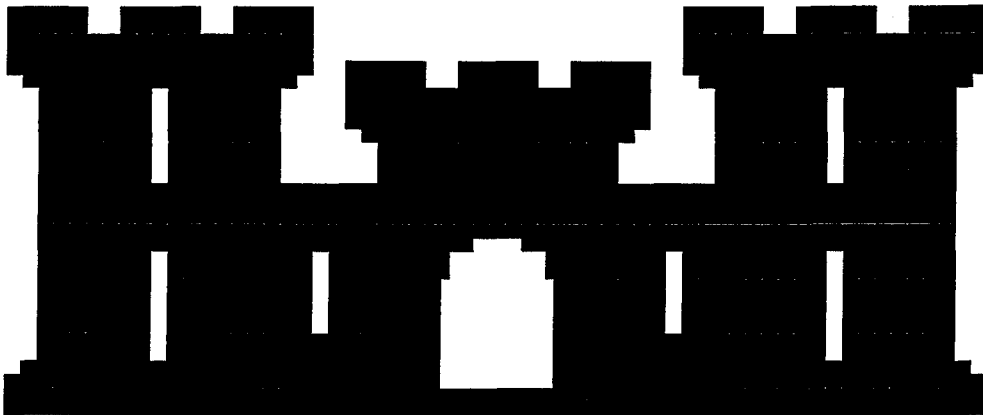


```
            Use arrow keys to highlight option, and press ENTER,
                     or "CLICK" on option with MOUSE.
                          Press F1 for HELP.
```

Select 'Database Utilities' by either highlighting 'Database
Utilities' using the left or right arrow keys (← or →), pressing
'D' for 'Database Utilities', or highlighting 'Database Utilities'
with the mouse. Press ENTER and a sub-menu will be displayed.
This sub-menu allows the user to select database functions or
processes needed during the RDMIS Utilities session.

The RDMIS Database Utilities menu offers selections to

> Re-Index
> Upload/Export
> Download/Import
> Roll Ups
> Pack Memo

You can make your selection by any of the following three methods

1) Use arrows to highlight the option and press Enter
2) Press the corresponding highlighted character for the option

   I - Re-**I**ndex
   U - **U**pload/Export
   D - **D**ownload/Import
   L - Ro**ll** Ups
   P - **P**ack Memo

3) Use the mouse to move the cursor to highlight the option and click the LEFT button.

RE-INDEX RDMIS DATABASE

The re-index process will reset the indexes for all current RDMIS database files. When the RDMIS POC suspects a problem with the database, the RDMIS POC should always try to re-index before attempting to restore (Restoration may cause loss of data). During the re-index process there are two pop-up screens. The pop-up screen on the left side will display the number of records being indexed within the table or file. The other pop-up screen will display the table or file being re-indexed.

```
##### records indexed
          .
          .
          .
```

```
TABLE-NAME
is being reindexed
```

NOTE: ##### is the number of records and TABLE-NAME is the name of the table or file.

The re-index process is available from the sub-menu by highlighting 'Re-Index' with arrows keys or mouse, or by pressing 'I' for 'Re-Index'.

UPLOAD/EXPORT RDMIS DATABASE TO DRD

The upload/export process translates the RDMIS databases into ASCII format for transfer to the CDC computer where the Corporate RDMIS database resides. The RDMIS upload/export process is accomplished in two steps. The first step is the upload/export process accessed through the RDMIS Utilities menu. The second step transfers the ASCII files to the CDC computer. The second step is accessible at the DOS prompt and is documented under the 4.3.3 Off-Line Procedures section.

The upload/export process is available from the sub-menu by highlighting 'Upload/Export' with arrows keys or mouse, or by pressing 'U'. When the RDMIS POC selects the upload/export process, the following menu screen is displayed.

```
                        U.S. Army Corps of Engineers
   24 JAN 94                Research and Development              RDUTL001
                   Management Information System - Version 2.20
      ██████   ████   ████              █████   ████   ████
   ┌─────────────────────UPLOAD SELECTION CRITERIA────────────────────┐
   │                                                                   │
   │   [ ] All                      [ ] Military Direct                │
   │                                [ ] Military Reimbursable          │
   │   [ ] Civil Direct             [ ] Project(s)                     │
   │   [ ] Civil Reimbursable       [ ] RAU Data (Work Package Data)   │
   │   [ ] Program(s)               [ ] Oblg/Disb Plans (Project Level)│
   │                                                                   │
   │          <Start Upload>        <   Abort   >                      │
   └───────────────────────────────────────────────────────────────────┘
      ████████████████████████      ████████████████████████
```

The upload/export process translates into ASCII format only the RDMIS data that has been edited for the selected criteria. Multiple options may be requested for a single upload/export.

All - All Civil, Military and Financial Direct and Reimbursable RDMIS data that has been edited for the various reporting levels.

Civil Direct - All Civil Direct RDMIS data that has been edited for the various reporting levels.

Civil Reimbursable - All Civil Reimbursable RDMIS data that has been edited.

Program(s) - All Program and Work Unit level data that has been edited for the selected Civil Program. A pick list is displayed to allow the POC to select the Program. Multiple Programs may be selected.

Military Direct - All Military Direct RDMIS data that has been edited for the various reporting levels.

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Military Reimbursable - All Military Reimbursable RDMIS data that has been edited.

Project(s) - All data that has been edited under the selected Project. A pick list is displayed to allow the POC to select the Project. Multiple Projects may be selected.

RAU Data (Work Package Data) - All Work Package level data that has been edited.

Oblg/Disb Plans (Project Level) - All Project level Financial Obligation and Disbursement Plan Data that has been edited.

DOWNLOAD/IMPORT RDMIS DATABASE

The download/import process translates the ASCII files received from the CDC computer into the RDMIS databases. The RDMIS download/import process is accomplished in two steps. The first step transfers the ASCII files from the CDC computer to the Site POC's computer. The first step is accessible at the DOS prompt and is documented under 4.3.3 Off-Line Procedures section. The second step is the download/import process accessed through the RDMIS Utilities menu. When the RDMIS POC selects the download/import process, a pop-up screen will display the files or tables being converted from ASCII format.

```
TABLE_NAME_AND_PATH Converted
```

NOTE: TABLE_NAME_AND_PATH is the table or file name including the path, being converted from ASCII format.

After all files are converted, the re-index and roll up options are automatically run.

The download process is available from the sub-menu by highlighting 'Download' with arrows keys or mouse, or by pressing 'D' for 'Download'.

ROLL UP RDMIS DATABASE

The roll up information is for DRD reports. The roll up process will sum up the work unit resources into a higher level of work. For instance, all work unit resources for work units belonging to Program 120 will be summed and stored in a roll up table to be shipped to DRD.

The roll up process is available from the sub-menu by highlighting 'Roll Ups' with arrows keys or mouse, or by pressing 'L' for 'Roll Ups'.

PACK MEMO

The pack memo process is used to reduce the size of the memo database after records have been deleted.

4.3.2 Other Procedures.

OTHER MODULE

The Other Utilities Module offers the user the capability to implement security, print the RDMIS End User Manual, set the path for the automated software upgrade, and set the path for archive version of RDMIS data.

To run the Other Utilities, start RDMIS utilities. The first RDMIS Utilities screen displayed is the castle or main menu.

```
                           U.S. Army Corps of Engineers
    DD MMM YY                   Research and Development              RDUTL001
                         Management Information System - Version 2.20
       Database Utilities  Other Utilities  Exit
```
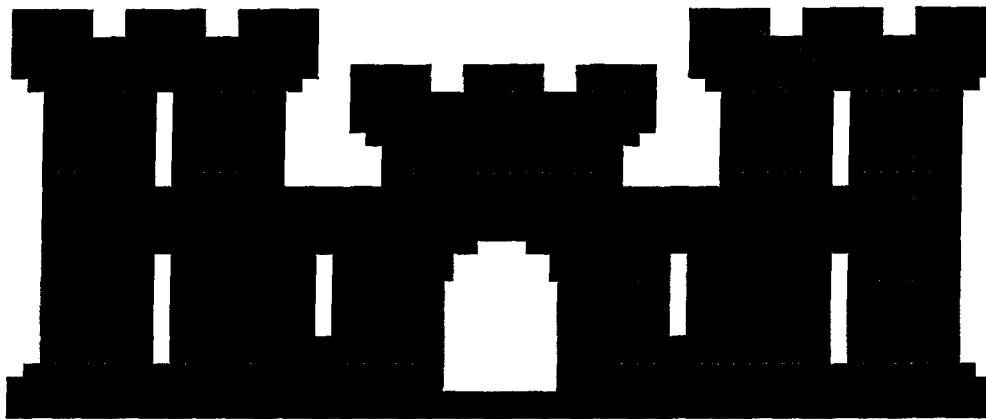
```
         Use arrow keys to highlight option, and press ENTER,
                    or "CLICK" on option with MOUSE.
                         Press F1 for HELP.
```

Select 'Other Utilities' by either highlighting 'Other Utilities' using the left or right arrow keys (← or →), pressing 'O' for 'Other Utilities', or highlighting 'Other Utilities' with the mouse. Press ENTER and a sub-menu will be displayed. This sub-menu allows the user to select functions or processes needed during the RDMIS Utilities session.

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The RDMIS Other Utilities option offers the following sub-options:
       Security
       Documentation
       RDMIS Update Path
       ARCHIVE Data Path

You can make your selection by any of the following three methods

       1)   Use arrows to highlight the option and press Enter
       2)   Press the corresponding highlighted character for the
             option

             S - **S**ecurity
             D - **D**ocumentation
             R - **R**DMIS Update Path
             A - **A**RCHIVE Data Path

       3)   Use the mouse to move the cursor to highlight the option
             and click the LEFT button.

Under the Security option, the system offers the following
selections:

       User Security
       Work Unit Security
       Program/Work Package Security
       Exit

SECURITY

Although it is not mandatory to implement security, RDMIS allows
security at a site. Security codes are assigned to the user and
work items: Work Units, Work Packages and Programs. The security
code is the correlation or matching element between the RDMIS user
and the database. An RDMIS user can view the information on RDMIS,
but is limited by the security code to add, edit or delete RDMIS
information. This security scheme is flexible and allows
implementation by individual or group. Any number of users may
share the same security code, which allows group access to work
performed by that group.

Under the Security option, the system offers the following
selections:

       User Security
       Work Unit Security
       Program/Work Package Security
       Exit

USER SECURITY

The RDMIS POC may assign a security code to the user. For stand-alone systems, the RDMIS POC can protect against unwanted write-access to the RDMIS data. On a networked implementation the RDMIS POC may assign a valid network user certain privileges to RDMIS. To assign the RDMIS user access to the system, select 'User Security' from the Security sub-menu. The following screen will be displayed for the RDMIS POC to make security assignments to an RDMIS user. RDMIS security only encompasses the RDMIS system; it does not extend to the network (or PC for stand-alone implementation).

```
                        USER SECURITY SCREEN

    USER ID                      ENCRYPTED PASSWORD       SECURITY CODE

   NewUser                          j1#ㄱㄱㄱㄱ              xxx
   NextUser                        ㄱc$^&<xㄱ               HL
 ■ --- Not Assigned ---            ㄱㄱㄱㄱㄱㄱㄱ
 ■ --- Not Assigned ---            ㄱㄱㄱㄱㄱㄱㄱ
 ■ --- Not Assigned ---            ㄱㄱㄱㄱㄱㄱㄱ
 ■ --- Not Assigned ---            ㄱㄱㄱㄱㄱㄱㄱ

   NewUser                          NEW                    xxx

   <Edit>    <Exit>           <Add>            <Delete>
   <Save>    <Abort>          <Sort by Name>   <Sort by sec code>
       Press "TAB" or use mouse to move from the list to the options.
```

The passwords are stored in an encrypted format in the database to prevent unwanted access. The highlighted User Id in the pick list appears in the edit window with the password decrypted. The site POC should guard access to RDMIS Utilities by not placing it on the network.

WORK UNIT SECURITY

The RDMIS POC may assign a security code to Work Units. The
security on the Work Unit level allows the user write privileges
for Work Units with matching security codes. To assign security
for the Work Unit, select 'Work Unit Security' from the Security
sub-menu. The following screen will be displayed for the RDMIS POC
to make security assignments to RDMIS Work Unit.

```
+------------------------------------------------------------------+
|                    Security Code Loader                          |
|  PROJ | Prg/Pkg | WU #  | SEC | Title                     |      |
|       |         |       |     |                           |      |
|       |         |       |     |                                  |
|       |         |       |     |                                  |
|       |         |       |     |                                  |
|       |         |       |     |                                  |
|       |         |       |     |                                  |
|       |         |       |     |                                  |
|       |         |       |     |                                  |
|       |         |       |     |                                  |
|       |         |       |     |                                  |
|       |         |       |     |                                  |
|       |         |       |     |                                  |
+------------------------------------------------------------------+
```

PROJ –   (Military ONLY) The code for the Work Unit's Project.
             (N/A for Civil)
Prg/Pkg – The number assigned to either the Work Unit's Program
             (Civil Works) or Work Unit's Work Package (Military)
WU # –   The number assigned to the Work Unit.
SEC –   The security code for the Work Unit.
Title –   The name or title of the Work Unit.

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PROGRAM/WORK PACKAGE SECURITY

The RDMIS POC may assign a security code to Civil Works Programs and Military Work Packages. The security on the Program/Work Package level allows the user write privileges for the Program/Work Packages with matching security codes. To assign the security for the Program/Work Package, select 'Program/Work Package Security' from the Security sub-menu. The following screen will be displayed for the RDMIS POC to make security assignments to RDMIS Program/Work Package.

```
┌─────────────────────────────────────────────────────────────────┐
│                     Security Code Loader                         │
│ Prg/Pkg │ SEC │ Title                                            │
│─────────┼─────┼──────────────────────────────────────────────────│
│         │     │                                                  │
│         │     │                                                  │
│         │     │                                                  │
│         │     │                                                  │
│         │     │                                                  │
│         │     │                                                  │
│         │     │                                                  │
│         │     │                                                  │
│         │     │                                                  │
│         │     │                                                  │
└─────────────────────────────────────────────────────────────────┘
```

Prg/Pkg - The number assigned to the Civil Works Program or Military Work Package.
SEC -   The security code for the Program/ Work Package.
Title -   The name or title of the Civil Works Program or Military Work Package.

The last column indicates whether the item is *Mil* - Military or *Civ* - Civil Works.

DOCUMENTATION

The documentation process provides information on how to print the RDMIS End User Manual. The original RDMIS End User documentation is in WordPerfect format.

RDMIS UPDATE PATH

The Update Path must be set by the RDMIS POC to allow the automated upgrade of the RDMIS software. The Update Path should be set to the network directory where the RDMIS System resides. The stand-alone versions of RDMIS should set the Update Path to the directory on the PC where the RDMIS System resides. The RDMIS System checks the Update Path for modifications to the current system. If modifications are detected, the RDMIS System is automatically updated.

ARCHIVE DATA PATH

The Archive Path must be set by the RDMIS POC to allow viewing of the archive version of RDMIS. The archive feature which was added in RDMIS v2.10 is a view-only version of the RDMIS database containing data from all the labs submitting to DRD. The archive feature does not have to be implemented for normal RDMIS use. Therefore the Site POC can allow access to the archive version to all or selected RDMIS users. The archive data will require approximately 20 MB of disk space. Therefore there must be enough disk space on the RDMIS network server or stand-alone pc to allow implementation of the archive option.

NOTE: To prevent overwrite of the active RDMIS database, the archive data **must be placed** in a separate directory from the site active RDMIS database.

Once the archive path is set to point to the archive data, the archive option is accessed by typing **archive -t** in the pc directory where the RDMIS software resides. "Version ARCHIVE" is displayed to remind users they are not viewing the active RDMIS database.

4.3.3 Off-Line Procedures.

The communications to the CDC computer, where the Corporate RDMIS database resides, is handled outside the RDMIS menus. At the corporate database level information is available for all sites. The corporate database level has the capability to be linked to the COEMIS or CEFMS database to retrieve actual resource information. At each site the database is sent up via the upload/export process and likewise each site-specific database may be sent down via the download/import process. The upload/export and download/import functions may be accomplished either by a batch file or typing in the commands.

Upload/Export

The first step of the Upload/Export process is accomplished through the RDMIS Utilities menu. The first step is documented under the 4.3.1 Database Procedures section. The ASCII files generated from this process are placed in the directory where the RDMIS Data resides. The following commands accomplish the second step of the Upload/Export process:

```
ftp 140.194.20.7 (the address of the CDC computer)
cd /cpc41/u4imc001/XXX/rdmisin    (xxx = site name)
mput *.asc
bye
```

Download/Export

The following commands accomplish the first step of the Download/Import process:

```
ftp 140.194.20.7 (the address of the CDC computer)
cd /cpc41/u4imc001/XXX/rdmisout    (xxx = site name)
mget *.ora
bye
```

These files must be placed in the directory on the Site POC computer where the RDMIS System and RDMIS Utilities resides. The second step in the Download/Import process is accomplished through the RDMIS Utilities menu. This step is documented under the 4.3.1 Database Procedures section.

The RDMIS POC must enter a valid user identification and password for the CDC computer when performing an upload/export or download/import.

NOTE: If you are having any problems with the upload/export or download/import process please contact RDMIS Support.

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4.4 Related Processing.

RDMIS allows data entry capabilities. Refer to the RDMIS End User Manual for information on this system.

4.5 Data Backup.

Backup of the RDMIS data is initiated by the RDMIS POC using site-mandated backup procedures. The backup should be run prior to upload of the data to CEAP. The RDMIS POC will execute the off-line utilities and select the process to backup the data.

NOTE: No RDMIS users may be logged into RDMIS during backup.

4.6 Recovery from Errors and Malfunctions.

If the user receives an error within the RDMIS environment then the user should cancel the operation. If the user is unable to exit or ESC (escape Key) from RDMIS Utilities because the computer is locked up, then the user must reset or reboot the computer.

NOTE: Rebooting a computer during execution of RDMIS can cause data errors and should be done as a last resort. Be sure to allow enough time for any processing that may be occurring prior to performing a reboot. If this situation occurs contact RDMIS support.

In the event that the data becomes corrupted the POC should use the latest backup of the RDMIS data to restore the database. In the event that the system will not run, the RDMIS POC must be contacted to re-install the system and restore the database with the latest backup. After the database has been restore, use the Re-Index option from the RDMIS Utilities.

4.7 Messages.

RDMIS offers three types of messages:

> HELP messages
> PROCESSING messages
> ERROR messages

Help messages give a definition that corresponds to the current field on the screen (where the cursor is positioned).

Processing messages advise the user what is being accomplished by the system; for example, 'Processing Report...'.

Error messages indicate that the entry is invalid and might advise the user of the range of values. If the user receives an error message then the user may re-enter the appropriate value for the field. Another type of error message is derived from the database management system. When this type of error occurs the user should select cancel and contact the RDMIS support team with the description of the error.

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13. ABSTRACT *(Maximum 200 words)*

The Research and Development Management Information System (RDMIS) is a multi-user system. Each site requires a system user who is the RDMIS point of contact to support the needs of the RDMIS users. A system user is responsible for maintaining site access, security, and administration of RDMIS whether networked or stand alone.

This document provides the system user with information necessary to effectively maintain RDMIS.

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